NON-FOCUSING OPTICS SPECTROPHOTOMETER, AND METHODS OF USE

Abstract of the Disclosure

In one aspect, the present invention provides kinetic spectrophotometers that each comprise: (a) a light source; and (b) a compound parabolic concentrator disposed to receive light from the light source and configured to (1) intensify and diffuse the light received from the light source, and (2) direct the intensified and diffused light onto a sample. In other aspects, the present invention provides methods for measuring a photosynthetic parameter, the methods comprising the steps of: (a) illuminating a plant leaf until steady-state photosynthesis is achieved; (b) subjecting the illuminated plant leaf to a period of darkness; (c) using a kinetic spectrophotometer of the invention to collect spectral data from the plant leaf treated in accordance with steps (a) and (b); and (d) determining a value for a photosynthetic parameter from the spectral data.